

# KANSAS CORPORATION COMMISSION ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- Open Flow  
 Deliverability

(See Instructions on Reverse Side)

Test Date:  
11-14-14

API No. 15  
15-067-21793-00-00

Company MERIT ENERGY COMPANY, LLC		Lease ASKEW ATU		Well Number A-4	
County GRANT	Location SW SW SW SW	Section 23	TWP 27S	RNG (E/W) 35W	Acres Attributed
Field HUGPAN		Reservoir CHASE & COUNCIL GROVE		Gas Gathering Connection ONEOK	
Completion Date 8-27-14		Plug Back Total Depth 3140		Packer Set at NONE	
Casing Size 5.5	Weight 17.0	Internal Diameter 4.892	Set at 32.15	Perforations 2614	To 2940
Tubing Size	Weight	Internal Diameter	Set at	Perforations	To

KCC WICHITA

DEC 08 2014

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Type Completion (Describe) COMINGLED GAS		Type Fluid Production NONE		Pump Unit or Travelling Plunger? Yes / No NO	
Producing Thru (Annulus / Tubing) ANNULUS		% Carbon Dioxide 0.049		% Nitrogen 15.485	
Vertical Depth(H) 2777		Pressure Taps FLANGE		(Meter Run) (Prover) Size 2.067"	
Pressure Buildup:	Shut in 11-10-14	20 at 0945	(AM) (PM) Taken 11-13-14	20 at 0945	(AM) (PM)
Well on Line:	Started 11-13-14	20 at 0945	(AM) (PM) Taken 11-14-14	20 at 0945	(AM) (PM)

**OBSERVED SURFACE DATA**

Duration of Shut-in 72.0 Hours

Static / Dynamic Property	Orifice Size (inches)	Circle one: Meter or Prover Pressure psig (Pm)	Pressure Differential in Inches H <sub>2</sub> O	Flowing Temperature t	Well Head Temperature t	Casing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>i</sub> ) or (P <sub>e</sub> )		Tubing Wellhead Pressure (P <sub>w</sub> ) or (P <sub>i</sub> ) or (P <sub>e</sub> )		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-in						26.6	41.0			72.0	
Flow	1.125	14.5	22.1	45	75	15.8	30.2			24.0	0

**FLOW STREAM ATTRIBUTES**

Plate Coefficient (F <sub>b</sub> ) (F <sub>p</sub> ) Mcfd	Circle one: Meter or Prover Pressure psia	Press Extension $\sqrt{P_m \times h}$	Gravity Factor F <sub>g</sub>	Flowing Temperature Factor F <sub>t</sub>	Deviation Factor F <sub>sv</sub>	Metered Flow R (Mcfd)	GOR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G <sub>s</sub>
6.5564	28.90	25.27	1.1835	1.0147	1.0026	199.5	NONE	0.714

**(OPEN FLOW) (DELIVERABILITY) CALCULATIONS**

(P<sub>e</sub>)<sup>2</sup> = 1.7 ; (P<sub>w</sub>)<sup>2</sup> = 0.9 ; P<sub>0</sub> = 73.8 % (P<sub>e</sub> - 14.4) + 14.4 = 41.0 ; (P<sub>0</sub>)<sup>2</sup> = 0.207  
(P<sub>d</sub>)<sup>2</sup> =

(P <sub>e</sub> ) <sup>2</sup> - (P <sub>0</sub> ) <sup>2</sup> or (P <sub>e</sub> ) <sup>2</sup> - (P <sub>d</sub> ) <sup>2</sup>	(P <sub>e</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup>	Choose formula 1 or 2: 1. P <sub>e</sub> <sup>2</sup> - P <sub>0</sub> <sup>2</sup> 2. P <sub>e</sub> <sup>2</sup> - P <sub>d</sub> <sup>2</sup> divided by: P <sub>e</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	LOG of formula 1, or 2, and divide by: $\frac{P_e^2 - P_0^2}{P_e^2 - P_w^2}$	Backpressure Curve Slope = "n" ----- Assigned Standard Slope	n x LOG [ ]	Antilog	Open Flow Deliverability Equals R x Antilog (Mcfd)
1.47	0.760	1.928	0.2850	0.850	0.2423	1.7469	348.52

Open Flow 349 Mcfd @ 14.65 psia      Deliverability Mcfd @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct. Executed this the 14 day of NOVEMBER, 20 14.

*Copy to KCC Wichita*  
Witness (if any)

*Precision Wireline & Testing*  
For Company

For Commission

Checked by

*Merit Energy Co. - Janna Burton*